

IN THE SPECIFICATION:

Please substitute the following amended paragraph for the pending paragraph beginning on page 6, line 23:

Q1 --The term "data" refers herein to physical signals that indicate or include information. When an item of data can indicate one of a number of possible alternatives, the item of data has one of a number of "values." For example, a binary item of data, also referred to as a "bit," has one of two values, interchangeably referred to as "1" and "0" or "ON" and "OFF" or "high" and "low." A bit is an "inverse" of another bit if the two bits have different values. An N-bit item of data has one of 2^N values. A "multi-bit" item of data is an item of data that includes more than one bit.--

Please substitute the following amended paragraph for the pending paragraph beginning on page 11, line 15:

Q2 --As depicted by the flowcharts of Figures 5 and 6, the object location step 100 is performed by first identifying the background region of the input image 102, characterizing the background region 104, and then using the characteristic of the background region as a seed, identifying all the pixels representing the background region with an adaptive seed fill algorithm 106. Background pixels are pixels not associated with any objects, or more simply, they are pixels representative of those regions lying outside of the objects, the values of which are controlled by the "background" against which the objects are placed during scanning (e.g., the underside of the platen cover). One embodiment employs the average color of a small region in the upper left-hand corner of the scanned image as an initial estimate of the background color. Alternatively, other sampling operations may be employed to determine the background color as described, for example, in US-A-5,282,061 for a

A2

Programmable Apparatus for Determining Document Background Level by Farrell.--

Please substitute the following amended paragraph for the pending paragraph beginning on page 15, line 1:

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--After the data reduction, at step 420 of Figure 7, an estimation of the angle of the line passing through each remaining point on the contour is preformed. As shown in Figure 7, a modified linear regression in a particular window (W) centered on each point is performed so as to estimate an angle of the line passing through each remaining point of the contour determined by the set of data points. Initially a modified linear regression is done on a small window centered on a point (A) where each linear regression requires a series of additions, multiplication's, and arc tangent calculations.--

Please substitute the following amended paragraph for the pending paragraph beginning on page 15, line 9:

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--In particular, a standard regression algorithm fits data to the line $y=mx+k$. However, using a standard regression algorithm to perform these functions can lead to erratic results as the line approaches a vertical. Therefore, in the present invention, the algorithm is modified so as to account for these erratic results. As shown in Figure 8 in each of the four quadrants indicated therein, a standard regression is used for the lines that are more horizontal in two quadrants with a slope between -45° and $+45^\circ$. When the slope is not in the identified degrees, that is, when the lines are more vertical with a slope greater than 45° and in the other two quadrants, an inverted linear regression based on the inverted linear equations $x=1/my-k/m$ is performed. The slope angle is determined from the following equations:--

Please substitute the following amended paragraph for the pending paragraph beginning on page 15, line 26:

an --Once the slope calculation are accomplished, at step 430 of Figure 7, each point associated with an angle is categorized by performing a bin categorizing operation to generate a series of bins. For example, as shown in Figure 9, bins B1, B2, B3, and B4... are generated from a series of angles, which are associated with each point. The object of step 430 is to categorize groups of adjacent boundary points that share a common slope, i.e. convert the list of boundary points into a sequence of bins (B1, B2, B3...) where each of the bins consists of a set of collinear points so as to generate a boundary of an image made up of a set of straight line segments.--

Please substitute the following amended paragraph for the pending paragraph beginning on page 21, line 14:

anp --Overlap = Maximum (P1_{xmin}, P2_{xmin}) - Minimum (P1_{xmax}, P2_{xmax}) + 1
(step 870)--